Iowa Farm Science

Volume 21 | Number 8 Article 4

2-1967

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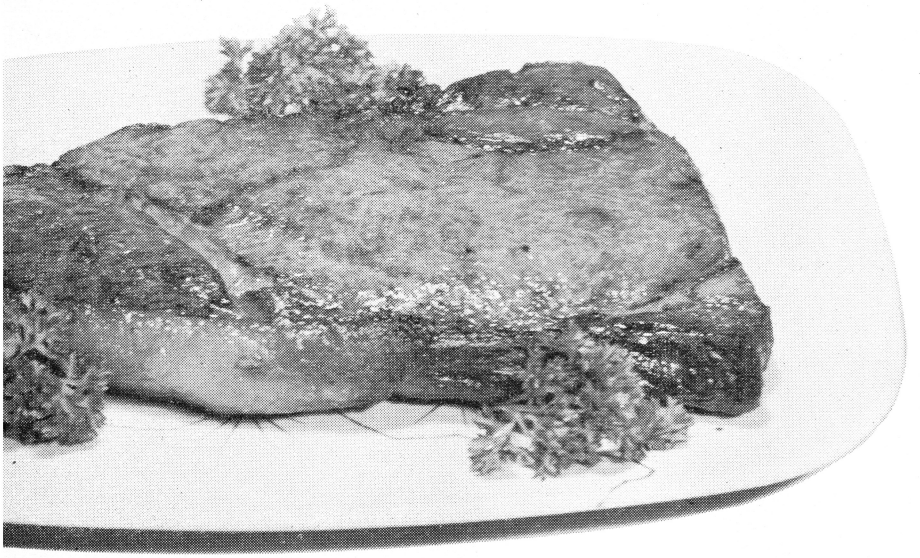

THE ELECTRONIC RANGE

by Virginia Bishop and Helen Van Zante

IOWA HOMEMAKERS and Iowa State University researchers have gotten together on a topic of interest to both — the electronic range.

Of course, the researchers have been scientifically testing the range with calibrated measuring instruments—while the homemakers have been using just plain food, creative cookery, and the family for a testing grounds.

Do the findings jibe? Yes, they do. Scientific findings in regard to the use and performance of the electronic range have also been proven true in the practical, everyday use given the range by the homemakers surveyed.

Cooking in the electronic range, of course, is entirely different from cooking in the conventional electric range where you can see red-hot units. In the electronic, the food is heated by invisible electro-magnetic waves called "microwaves" that penetrate the food.

From all outside appearances the new electronic range looks pretty much like a conventional range. But on the inside, shiny metal lines the oven to keep the microwaves from escaping. The controls, too, look different—they show time instead of temperature.

Here are some of the facts that have been known about electronic cooking for some time:

(1) It usually takes much less time than conventional cooking.

(2) Most foods do not brown with electronic cookery.

(3) Food is cooked according to TIME rather than temperature.

(4) Cooking time is figured according to mass or amount of food.

(5) Cooking occurs as microwaves penetrate the food.

(6) Cooking stops when the range door opens—so the range is safe to use. Food can be probed with a fork at this time to see if it is done.

(7) Walls of the oven remain cool as the oven itself is not heated.

But there are still many unsolved problems in cooking with the electronic range. Iowa State University household equipment personnel have worked on a few of them.

They found much inconsistency in evenness of heating for the short-time cooking required in the electronic range as compared to the evenness obtained in the long-time heating in a conventional range. Changing the position of the food during cooking seems to help somewhat.

Utensils used, of course, affect cooking results. Contents in round pans, for example, heat more evenly than contents in square pans. And glass cookware is more efficient in the electronic range than earthenware. Lids on pans seem to slow down the heating process.

The effect of electronic cooking on some nutrients also has been stu-

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Co-author Mrs. Virginia Bishop shows the latest combination electronic and conventional range added to the Iowa State University household equipment laboratory. Iowa State home scientists have evaluated the electronic range's usefulness and performance and strived to solve some of the problems involved in its use.

Mrs. Richard Snedecor of Rhodes warms a plate of food for her son Brad. The electronic range is most valuable when family members eat at different times, she says. "It's so easy to reheat a late-comer's plate," she explains. "But the electronic range is not an all purpose range—you need the conventional range, also," she adds.

died—riboflavin, thiamine, fatty acids, sugar, starch, and oils have been among these. And the research continues.

But what about questions asked of the homemakers? What were their answers to use of the electronic range? Is it worthwhile to continue the scientific research? Will the range eventually be found in most kitchens across the country?

For the answers, 44 electronic range users in Iowa were asked to evaluate the range—tell how they were using it—make suggestions that would help others—and give any special advantages or disadvantages they felt they had found.

In tallying up their answers, here's what we found:

Who are the people using the electronic range in their homes?

Mostly, they're homemakers with three to five people in the household. They live in single family homes, many of which were built or remodeled when the electronic range was installed. They have other cooking equipment and many of their appliances are "built-ins." Some of the homemakers also have a job outside the home.

Why do they own an electronic range?

"Time saving" was the main reason given. The amount of cooking actually done with the electronic range varied widely, however, and seemed to depend upon how well the homemaker liked the foods cooked in the range and the number of services it could provide.

How do they use the range?

Here they said, chiefly for cooking foods singly—one dish at a time. However, many also indicated they use it for warming and thawing foods.

Their comments: "It's wonderful for warming the baby's bottle," or "I thaw food for my neighbor occasionally," or "The range is out of this world to defrost meat in, *but* I would not advise any husband to buy his wife an electronic range just for defrosting meat."

What foods do they cook?

Meats and vegetables are most often prepared, particularly bacon, poultry, and ground meat. Roasts and large pieces of meat, they said, tended to turn out "tough." Baked potatoes were one of their favorite vegetables for electronic cooking. One homemaker says: "Fresh vegetables are terrific cooked in an electronic range." Others mentioned heating canned or frozen vegetables.

Desserts such as cakes, puddings, pie fillings, and candy were mentioned as often prepared in the electronic range.

Casseroles are another favorite. One homemaker commented: "Casseroles made in the morning and heated thoroughly at mealtime are moist and delicious." Another cautioned: "You have to be able to stir the casserole so it will heat

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